

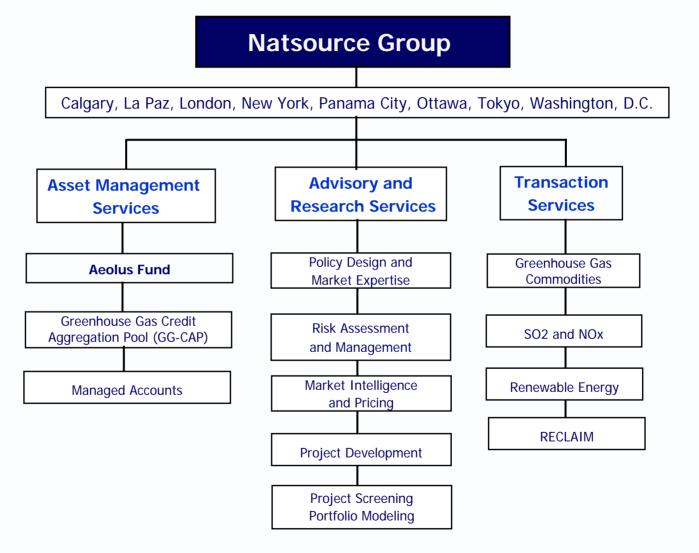
# Carbon Trade & Finance Capturing Opportunities US VERs; CCX; International

**October 25th, 2006** 

**David Oppenheimer - Managing Director** 

Natsource LLC

#### **Natsource at a Glance**





#### **Emissions Trading Rationale**

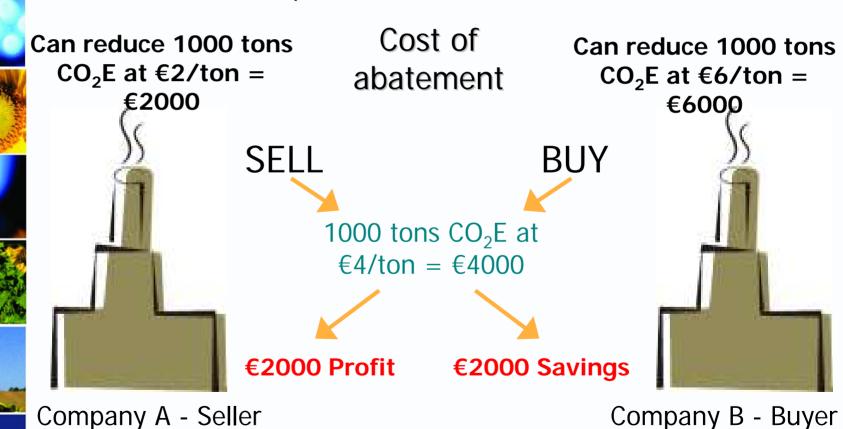
 Harness market opportunities to achieve targets in most cost-effective and flexible way.

#### • Benefits:

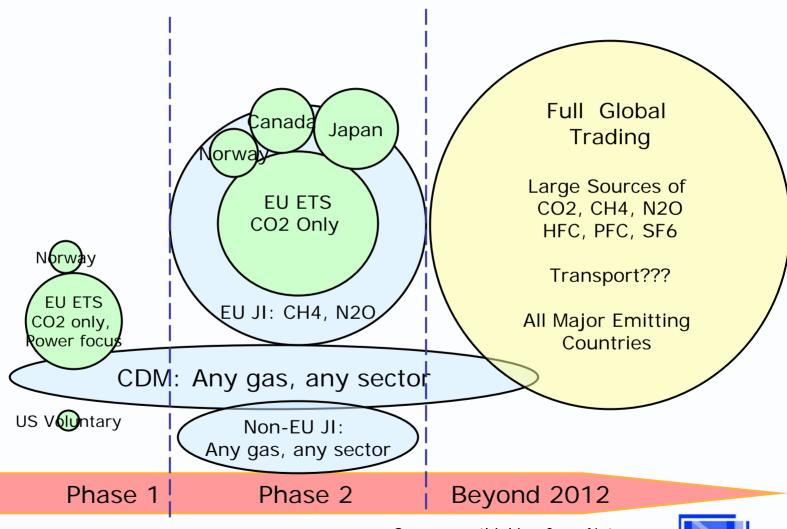
- Incentive/priority to innovate at home
- lower aggregate costs
- lower individual costs
- Additional revenue for over achievement

## What Is Emissions Trading? An Example

What options are most cost-effective?



#### The Global Carbon Market





## Major Components of the Carbon Market

- European Union Emissions Trading Scheme
  - EU Allowances, EUAs
  - 2006-2008
- Kyoto Protocol
  - Clean Development Mechanism
    - Certified Emission Reductions, CERs 2006-2012
  - Joint Implementation
    - Emission Reduction Units, ERUs 2008-2012
- US Markets?



## **US Market Participation**

- Some Funds purchasing domestic offsets
  - Either for compliance with future regulations, or
  - As pure speculation
- CCX
  - Generally small, PR-driven participants
  - Some larger firms, but still largely PR
- New regulations on the horizon, but no trades or markets yet



## Where is Natsource Going?

- Deploy capital in partnership with development and technology providers to focus on upstream carbon generation
- Grow asset management division
  - Increase capital under management
  - Add targeted fund products
- Optimize projects' non-carbon value and develop synergistic opportunities

#### **Natsource in the News**

#### FINANCIAL TIMES

#### First Kvoto carbon credits to be issued

By Fiona Harvey in London Financial Times.com Published: October 19 2005

Companies investing in environmentally sound energy projects in developing countries can expect to start reaping rewards under the Kyoto protocol, as the first "carbon credits" are set to be issued on Thursday.

On Wednesday, Natsource Asset Management announced it had received commitments of €455m from 26 companies, including Repsol, Eon UK, Norsk Hydro and Endesa.



Natsource Closes EUR455 Min CO2 Fund; E.On, Repsol Invest

Dow Jones Energy Service 19 October 2005

LONDON (Dow Jones)--New York brokerage Natsource LLC has closed the first private sector greenhouse gas credits fund, garnering EUR455 million (\$550 million) from energy companies and manufacturers to invest in emission reduction projects.

Natsource attracted 26 companies to its Greenhouse Gas Credit Aggregation Pool, or GG-CAP, including the U.K. subsidiary of Germany's E.On (EON), Repsol SA (REP), Endesa SA (ELE), Tokyo Gas Co. (9531.TO) and Hokkaido Electric Power Co. (9509.TO).

#### THE WALL STREET JOURNAL

Broker joins emissions market JOHN J. FIALKA Wall Street Journal 28 February 2005

A New York brokerage firm is emerging as a major force in the growing multibillion-dollar global emissions trading market — even as Washington continues to shun the Kyoto Protocol that is spurring those trades.

The firm, Natsource LLC, will announce today that it has formed a \$95-million (U.S.) fund that will pool contributions from six European, Japanese and Canadian companies.

The fund will find and invest in projects around the world to curb carbon-dioxide and other "greenhouse gas" emissions, giving investors in the fund credits that they can use to meet their assigned cuts in emissions, rather than reducing pollution at their own facilities.





#### State of the Market

- EU ETS (Emission Trading Scheme) up and running since 2005
- CDM UN Executive Board has registered 239 Projects that are projected to generate 450 million CERs
- Total transactions in 2005
  - 800 million tons traded
  - \$USD 11.28 billion
- Clean Development Mechanism/Joint Implementation transactions in 2005:
  - 425 million tons traded
  - \$USD 2.4 billion

#### **International Policy & Market Evolution** The Hague UN **Berlin Kyoto** Marrakesh **Framework Mandate** Protocol Collapse **Accords** Rio Treaty Further **Binding** Negotiation KP rules reductions Non-binding Targets , suspended agreed targets needed **Emissions** on KP rules Trading + programs in 1990 levels JI Pilot **CDM** by 2000 Phase 05 -92 98 00 02 94 96 04 07 **EU ETS** JI Pilot **Bush Administration Phase** US withdraws from KP Phase I No formal **Targets Danes Open CO2** crediting; on Major Market Power sector Industrials testing in FU 15 market solutions **UK Open CO2** Accession Market All industrials Countries Source: Compiled by Natsource

Some new thinking from Natsource. More growth. Less pollution.



**Kyoto** 

Period

National

trading &

compliance

place

08 - 12

**EU ETS** 

Phase II

More

sectors +

6 gasses,

links to

**Kyoto** 

**Parties** 



#### **Microeconomic Price Determinants:**

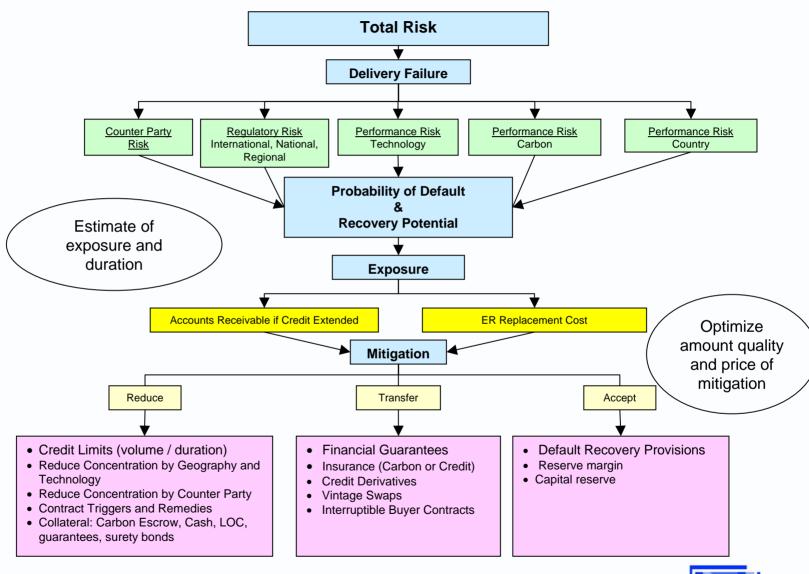
#### Specific Risk & Quality Determinants

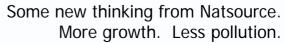
Realized Price = Perceived Value - Perceived Risk

- Compliance Risk -- Probability that the GHG ER will qualify for desired compliance
- Counterparty Risk -- credit worthiness of ER sellers
- Regulatory Risk (Country) -- country policies governing crediting and transferring of project-based ERs to buyers
- [Performance Risk (Country) -- the investment climate in host country]
- Performance Risk (Carbon) -- the technology and extent to which generation, creditability and ownership of ERs is affected by the particular type of technology
- Performance Risk (Technology) -- the operational and/or commercial aspects of technologies utilized in ER projects
- Structure of Contract -- Spot vs. forward, upfront vs. payment on delivery, optionality (volume, timing, RoFR)



#### **Natsource Risk Management Tool**







### **Historic Pricing Snapshot:**

#### **Did History Repeat Itself?**

#### A Look-Back at Other Environmental Markets

#### **EU Allowance Price**

Dec 2006 Contract (Jan 05 – June 06)

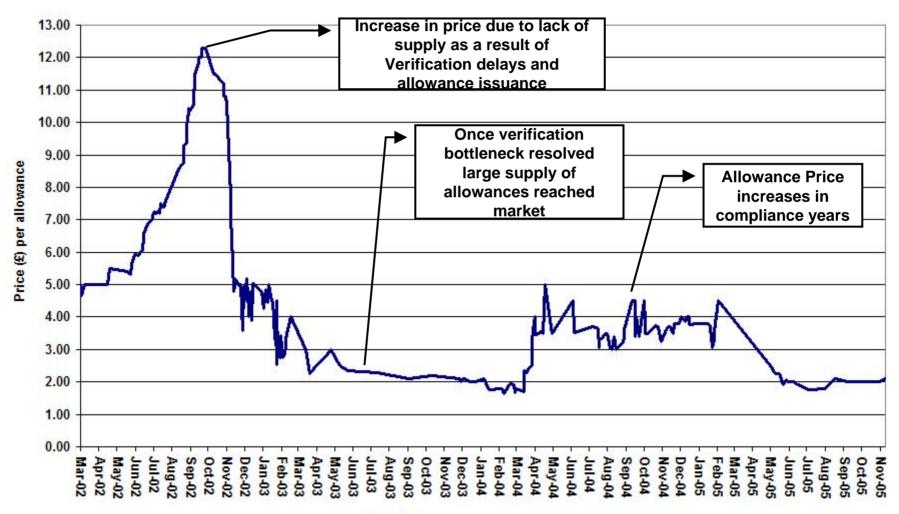
1 Dec 2006 Contract Price



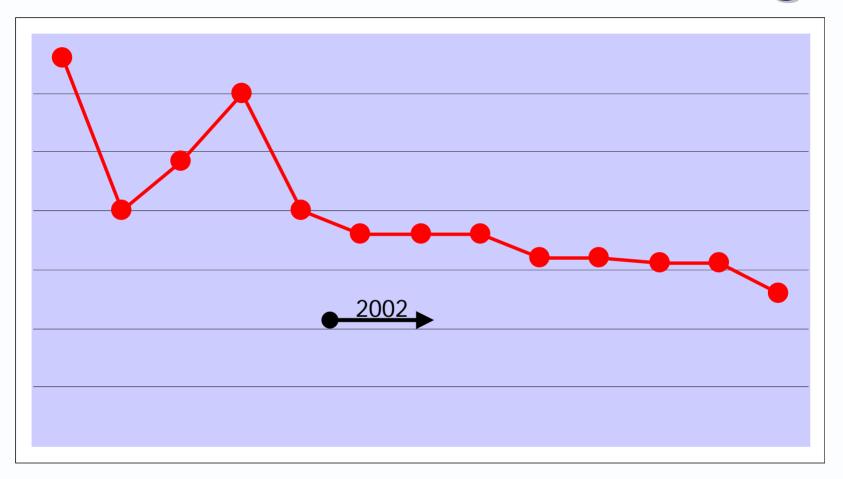
Source: Natsource, LEBA

## **UK Allowance Pricing**

UK Allowance Spot Market Price Curve (Current Vintage)



### **Danish Allowance Pricing**



- Few participants (effectively 4)
- Pricing end 2002: DKr 3 @ 36 (no trades)

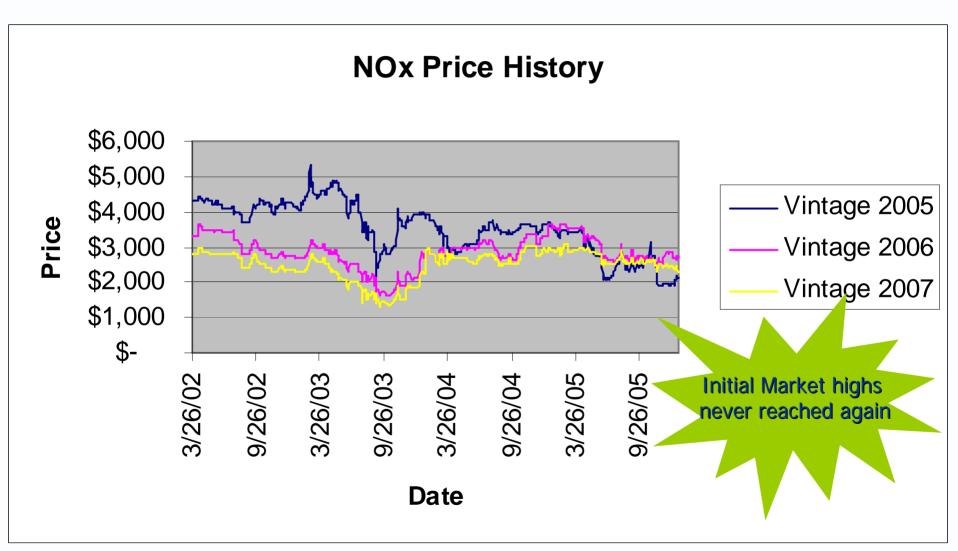
### **USA Spot SO2**





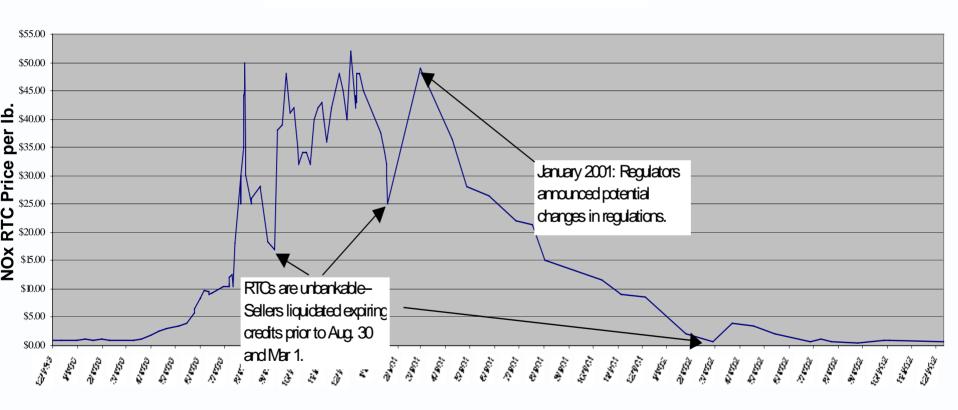


#### **USA NOx**





## Southern California NOx Reclaim Trading Credit (RTC) Spot





#### Where Do We Go From Here?

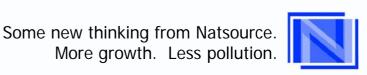
#### Is Carbon Finance a Short Term Play?

- China uses more coal than EU, USA & Japan combined
- Problem is long-term
  - The market may fluctuate but the need for clean development intensifies
  - Focus may revert to fundamentals of CDM Creating cleaner development instead of windfall profits
- CER pricing may get realistic but carbon finance is only just beginning
  - Technology shifts, Asian Pacific Partnership, US, Potential Canadian action, China & India must respond to intl. pressure to maintain growth



## **Emission reduction project - finance structures**

- Emissions Reductions Purchase Agreement (ERPA)
  - e.g., in the case of CDM/JI under the Kyoto Protocol buying of emission reductions of project – Investor developed country (Annex 1)
  - Direct buyer or 'Carbon Fund'
- 2. Investment in Equity
  - Investor (Annex 1)/local: total or partial financing of project in exchange for total/portion of financial revenues and carbon credits
- 3. Debt Loans
  - Investor Annex 1 provides loans at concessional rates in exchange for carbon credits / carbon credits as a loan guarantee



#### David Oppenheimer

Tel: +1 212 232 5305

Email: doppenheimer@natsource.com



Some new thinking from Natsource. More growth. Less pollution.

